

G3ZME
G6ZME

TDARS

News Letter

TELFORD AND DISTRICT AMATEUR RADIO SOCIETY

www.TDARS.org.uk

FOUNDED 1969

www.TelfordHamfest.co.uk

Issue 302

Sept-Oct 2021

www.TDARS.org.uk

Programme

www.telfordhamfest.co.uk

LWVH = Meeting at Little Wenlock Village Hall

- September 22 This year's Construction competitions: Show and Tell for real ! LWVH
- September 29 EMF and the new radiation exposure checks by OfCOM. Guest speaker John Rogers M0JAV (via Webex) at LWVH, 8pm.
- October 6 Committee Meeting LWVH—8pm - 2m FM net 144.600 MHz. M/C ?
- October 13 Telford & Wrekin Planning Committee Officer—talk re Planning Regs. etc LWVH at 8pm.
- October 20 Surplus Equipment Sale/Auction at LWVH. 8pm (10% to club funds)
- October 27 Hallowe'en (almost) Soup and a Roll—Social at LWVH
- November 3 Committee Meeting LWVH-8pm. 2m FM net 144.600 MHz.
- November 10 "Introduction to Meteor Scatter" by Gavin Nesbitt MM1BXF (via Webex) at LWVH 8pm. (RSGB 'Tonight@8' presentation)
- November 17 Winter Construction Projects—Ideas, please !
- November 24 Guest Speaker Callum M0MCX "DX Commander"—in person at LWVH! His choice of topic . . 8pm.
- December 1 Committee Meeting LWVH-8pm. 2m FM net 144.600 MHz.

For Equipment Loans & Returns contact Don M0TBQ.

For "Beyond Exams" scheme (Club or Individual) —enquiries to Graham G7LMF

For Morse Training and Morse Proficiency Tests Martyn G3UKV or Eric M0KZB.

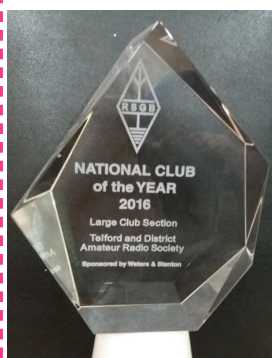
Radio Amateur Exams- Latest: Contact Graham G7LMF training@tdars.org.uk

Editorial

Thanks to everyone who helped at the 2021 Telford HamFest

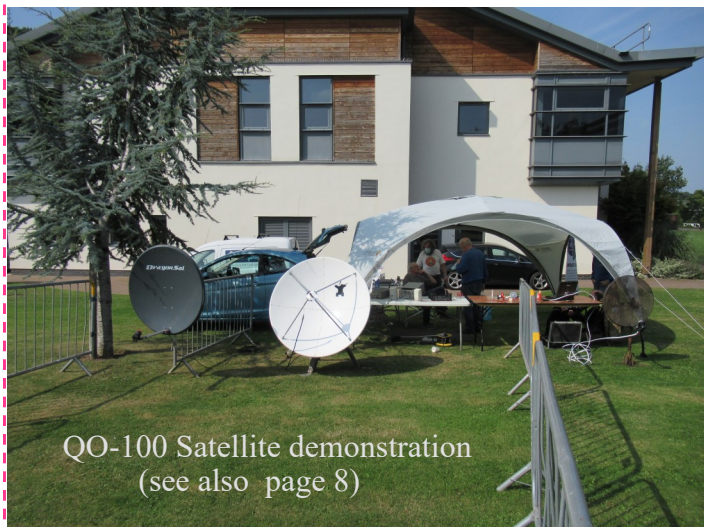
Return to Normal—well, sort of . . . As you will see from the page 1 Programme, TDARS is back in Little Wenlock Village Hall for the foreseeable future—but no one can be certain of what may happen in the next few months. Member turnout at LWVH in August and September has been well below pre-Covid levels, and we can all guess why, despite continuing precautions at the site.

But our HamFest was a great success, with many visitors commenting how they enjoyed meeting other folk after a long period of abstinence. The general consensus of traders was that takings were good—so we should have an excellent return in 2022—provisionally booked at HAU for 3/4th September. Visitor number were about 100 down on 2019, and I met a couple of folk who said they didn't want to actually enter the hall, but enjoyed the day outside in the beautiful weather we were blessed with. The dual café stations were also popular, even though one site was supposedly 'card only', then 'cash only' - and finally returned to a card preference for sales: the wonders of 21st Century technology. Sorted by HAU staff and John M0JZH.



I was personally surprised at the response to our 'Please wear face masks' inside' campaign. The vast majority of both visitors and exhibitors did just that throughout the day. Even the 'Track & Trace' slip included in the entrance programme was accepted and completed by almost every single visitor, and there have been no repercussions of a Covid-19 nature (thank heavens!). Simon's (G0UFE) idea of giving away a couple of Nano-VNAs to two lucky guys who completed their slips was a great way to encourage participation.

The coloured wristbands for both visitors and traders was another successful innovation this year, and will be carried forward next year. The AMSAT QO-100 live stationary satellite two-way digital TV demonstration was also a "first" for our venture—set up by Dave G8VZT, Peter G1OAR, John G7ACD and their associates. It was my first visual appearance via space—thanks Guys ! **MIV**



TELFORD & DISTRICT AMATEUR RADIO SOCIETY : 2021-22

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Telfordhams

Qtc: News & Information



TDARS MEETINGS EVERY WEDNESDAY EVENING HELD NORMALLY AT LITTLE WENLOCK VILLAGE HALL

SEE PROGRAMME PAGE 1 FOR LATEST MEETING VENUES & ARRANGEMENTS

Please note: A current membership card may be required to borrow TDARS equipment. Please return borrowed equipment promptly .

For the record, further to the **prize draw** at our successful Telford HamFest , the two winners of the Nano-VNAs were Cassie Youens M7EAB and Rob Linton G8XMS. The items have been forwarded to them.

BUT . . . Also following the HamFest, Martin 2E0TRO reports that one of the unique TDARS **Hi-Viz jackets** has not been returned to him— if you had one, please check you have returned it. Reflective sleeveless yellow jacket with **black** letters 'TDARS' on the back.

There are several **Special Contest Calls** (SCC) now held by the Club and its members: G3Z (TDARS SCC), G0C (Dave G0CER), M8K (Heather M0HMO), M4M (Paul M0PNN). Any others ? (Hope I've listed them correctly and not missed anyone! - Ed)



@g3zme

GB3TF has been very quiet of late, partly due to two or more shutdowns caused by brief power-cuts at LWVH. The system should auto re-boot, but seems to be stubborn at times. We suspect the back-up battery in the rather ancient PC running MS 'Vista'. A UPS could be added to the system. In any case, a new (S/H) laptop has been purchased at the HamFest, and John (M0JZH) will install the Wire-X software that controls the repeater, together with 'Team Viewer' that will allow full remote operation of the system, including re-booting unwanted shutdowns.

On the topic of 'shutdowns', members will be pleased to hear that **Bob M0RJS**, who moved QTH last autumn to Alsager (Cheshire) may be able to operate remotely via Don's (G6FHM) station in the future. Antennas at Bob's new QTH are a near impossibility, so if technology can beat such obstacles, it will be great!

In a recent Newsletter (#300), ex-member Simon (now MW0NWM) announced a new radio society—the "**Amplitude Modulation A.R.S.**". The society decided to hold a monthly net using the newly issued callsign **G5AMS**, and Robert (GW6GBY of Criggion fame) was chosen to host the very first 80m net on 3625KHz on Sunday 19th September at 7:30pm using GC5AMS. Robert had 18 stations call in to this net, using a variety of current and vintage radios, although he reports that the quality of transmission varied somewhat, but it was a great success overall, despite the QRM level rising as the evening progressed. Further input and much more from Robert elsewhere in this Newsletter. (Page 5)

Paul, M0PNN had an article on modifying cheap **surplus Power Supplies** published in the current "SPRAT" (the magazine of the G-QRP Club). Purchasing a HP HSTNS-PL14 (PSU) for a princely £7.70 (incl P&P), removing and bridging a single 100 ohm resistor, and adjusting a pre-set R, resulted in 13.8V output at 30+ Amps. Re-housing the unit completes the PSU. What a snip.

The well publicised visit to Heather & Paul's QTH near Much Wenlock in August by Kevin G0PEK and his daughter Lauren 2E0HLR, who were cycling **Land's End to John 'O Groats** for charity (RNLI—lifeboats) was enjoyed by quite a few members. A most pleasant evening.



Grumpy Old 'URT Rants and Rambles....*

(* With apologies to Rick Wakemans Grumpy Old Ramblings pages...)

As I was the one who suggested that members write in about what they had been doing since the last newsletter I thought that I'd better contribute. So, this season I have mostly been doing...

The Perseids Meteor Shower peak seemed to occur a day or so later than predicted on Saturday the 14th of August. On 2m MS my best was OH6HFX for an ODX of 1948km. Anything over 2000km is considered very good. The worse 'getaway' was CN8LI (Morocco) which would have been a new DXCC for me. The preferred mode now seems to be MSK144 which has an FT8 look about it. This is probably because the older mode of FSK441 is not being supported by the WSJT-X suite of programs and is only available on MSHV. A couple of the experts I spoke to via the ON4KST chatroom are convinced that FSK441 is much better when conditions are poor. They have concluded that it will decode the shorter pings better than MSK144. However, due to the popularity of MSK144 during a shower they will use it as the preferred mode unless having a pre-arranged sked with a really distant station.

One program I did make good use of was PSK-Reporter. This will give a map of all the stations you have heard, but I believe that it only works if the station is using MSHV which allows you to link up via the Internet with PSK Reporter. The beauty is that you can punch in the station you are calling details to see if he receiving you and worth carrying the QSO.

One of the most sought after stations was ZB2GI. He runs 50 watts with a 5 element yagi from a view point on top of the Rock of Gibraltar. He does however have 3 problems. 1/ Tourists keep on asking him silly questions, 2/ it was 34 degrees in the shade (all say aahhh now) and 3/ the apes (Barbary, not the tourists) insist on messing with his antenna. And I thought I had problems with wood pigeons...

Yet again I was not helped by persons using 15 second periods instead of the required 30 second period for transmitting on 2m. And a couple calling CQ on the even period instead of the recognised odd period in this neck of the woods. So whose fault is it? Lack of training? Lack of experience? Is it too easy to get onto the data modes nowadays without giving it much thought? I'm not at all au fait with the current exam syllabus but maybe something that could be incorporated into it? And of course none of these stations were logged onto the ON4KST chatroom to be advised.

And then to top it all a good tropo opening to the Balearic Islands on the Saturday afternoon (which I missed of course).

Final tally was : I(3), HB9(1), SP(2), S52(1), S50(2), HA(1), CT(2), YO(1), 9A(3), SM(3), YL(1), LA(1), OH(1), OK(1), EA(2)

Hamfest

Good to get to another rally after 2 years in the wilderness. I remember the hey days of rallies in the 1980s and 90s. The VHF convention in London (at Sandown Park or Kempton Park racecourse?) was always packed out with stalls and punters. Pre-internet days so the only places to get decent / ex military N type plugs , coax and very large transformers.... The VHF convention always ran a lecture stream with very well known operators and experts, so it was with a certain amount of trepidation I accepted an invitation to give a talk on 2m EME at the Hamfest.

After reviewing my talk that I had last given 5 years previous I realised that a certain amount of updating, editing and sanitizing of the slides was in order. I came to the conclusion that due to the introduction of FT8 I should skew the talk to emphasize that EME is not the same beast it was even 5 years ago and that it was in reach more than ever before. Luckily I managed to work Rado S52OT in Slovenia both in JT65b and Q65A mode the same morning for some screen shots as a comparison. I had also included a slide of my shack bench, but deleted it after second thoughts. You can't be too careful with reference >>>>>>>

Thanks for Newsletter Input this time:

Peter G4URT, David M0YDH, Shabaz, Robert G(W)6GBY, Graham G3VKV

Next edition Nov. / Dec. 2021

Can YOU contribute something?— Don't just leave it to someone else !

I will be giving the talk again in the future at the LWVH, so start saving up your tomatoes now....

Finally. End of August saw good tropo on 2m to Scandinavia and Germany / Poland direction. I worked several LAs, OZs and SMs on FT8. I then thought that I'd have a go on the 1st September. Big mistake! It was the FT8 contest in the evening and the band was rammed with UK contest stations working each other. It was difficult to find a clear space and quite often when I did find a space a relative local (not a club member!!) would start calling CQ on my listening period... But the most annoying part was being called by UK stations even though I was calling 'CQ DX'. Hello? What part of 'CQ DX' don't you understand??? Rant over until next Newsletter!!

[Re HamFest Talks: Rather embarrassing for those of us organisers who invited Peter and Heather to give presentations. Tiny audiences. We will have a re-think for next year. Clear timings for a start.—Ed.]

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I hoped to use my recently acquired twin TT21 Transmitter and using a R210 military receiver combo, but I had some issues with modulation and had to fall back to using a Kenwood TS590S with a little boost from a FT2100Z linear, into my double length G5RV aerial. It's worth mentioning a few details of this Tx/RX combination.

The modulation is provided at high level (via a mod transformer) by a 125 MOSFET audio amplifier, with plus and minus 45V power supplies. Photo 2 opposite shows the top view. At the rear of the chassis you can see the modulation components, power supply caps, amp output stage heat-sink, cooling fan and modulation transformer. Left middle is HT transformer, smoothing etc.

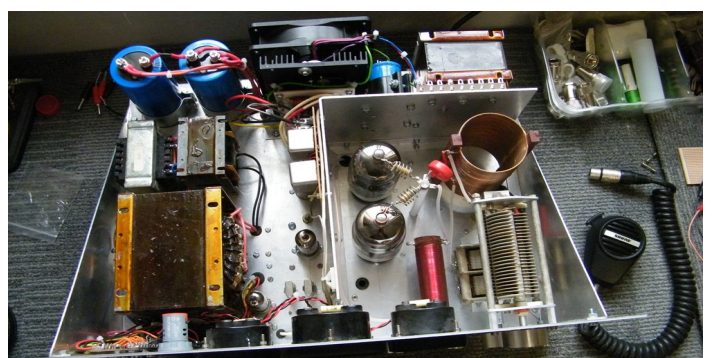
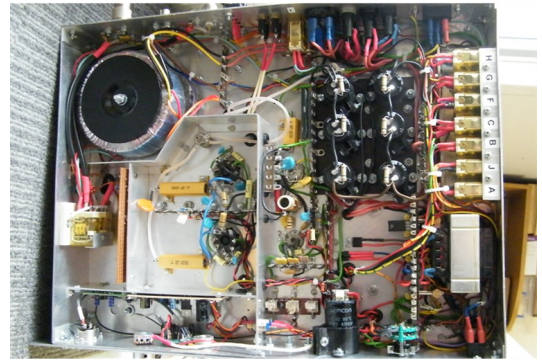


Photo 2: . TT21 Tx Top view showing PA, Modulator and HT components



To compliment the TT21, I acquired a military R210 receiver from a VMARS member. It formed part of the UK "LARKSPUR" military radio communications equipment and was built in Bridgnorth in the old RGD factory. It is a very well built (read very heavy and full of valves, all 15 of them) and well specified. It runs from 24VDC (about 2amps). I wanted a receiver that is impervious to very large RF inputs, just in case the Tx/Rx C/O relays go wild. It appears the documentation I have does not cover that bit of the design and it looks rather complicated.



<http://home.hetnet.nl/~meuls73/larkspur/larkspur.htm>  
if you want more info on the R210, it's a fascinating read.

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*(David brought his fully functioning Portsdown 4 D4TV station to the 'Construction Show and Tell' meeting last evening, which he has progressively built over the past 2 years. No wonder he won the Construction Competition in March— Excellent, outstanding project ---Ed.)*

I did a test transmission and promotion of the Telford HamFest [which is on tomorrow featuring our club's stand packed with bargains and 28 other traders]. So that could have been received by a third of the world's population..

The other picture is from yesterday when I was adjusting the alignment of the satellite dish against a signal strength report from the ATV beacon on the Transponder. You can see my Portsdown 4 displaying this in the window. I've mounted the bracket on Kee-Klamp sleeves that rest on a collar - azimuth adjustment is easy. I was very happy with using the old scissors jack for elevation adjustment. Up only was possible due to the dish bracket design. I settled for 9.3 - 10.0 MER before putting the poly bag weather protection back on. The dish is a 1.1metre Triax offset focus.

It's been 2 year's effort to build this station including a complete second Portsdown [I shorted the Pi3B and its screen on the first one ☐ - RIP]. I got into digital ATV as a follow up to the hardest thing in amateur radio - getting Summits on the Air Mountain Goat in October 2016. DATV hasn't disappointed for levels of complexity, catastrophe and fun! My thanks to all the radio and TV amateurs who've helped me get this far.





See also <https://www.wota.org.uk/>

...AND THE WINNER IS ...



## **"My First SDR Radio" —by Shabaz**

I built this over the past few evenings... surprised it works... to a degree... Picked up a couple of AM broadcast stations and a shortwave station too, I've used a 1 metre length of wire as the antenna. I've only tried it for about ten minutes.

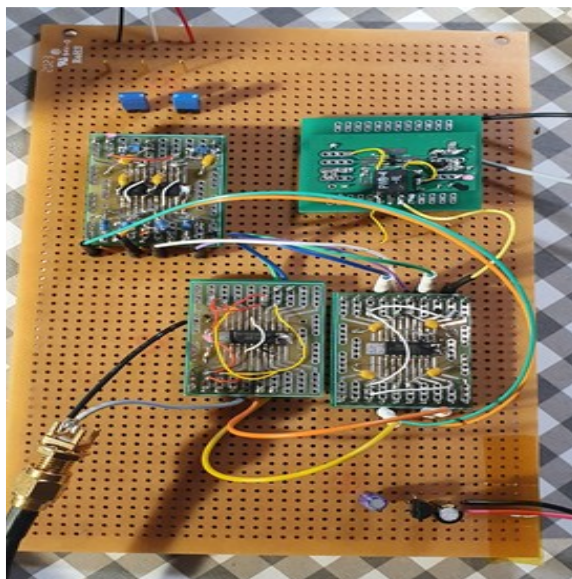


I'll write it up sometime, but basically it's similar topology to any other SDR radio project pretty much... Using a 74AC74 to divide by 4 to create the quadrature square waves (external signal generator for now) and the mixers happen to be a SD5400 FET array IC (I didn't have anything else). The front end is just a single JFET amp with 30MHz LC filter before it. The output is a couple of audio amps,

I copied an existing design for that from the Internet. I'm using SDR Sharp, but I want to swap out to the DSP board sometime.

All a bit of a mess, maybe I should create a PCB for it. I just don't know if that's worthwhile or not, since it's not better (likely far worse performing) than other SDR radio projects, since I'm seriously out of my depth here.

Anyway it was fun to get any audio out of it, so I'm counting it as a partial success.

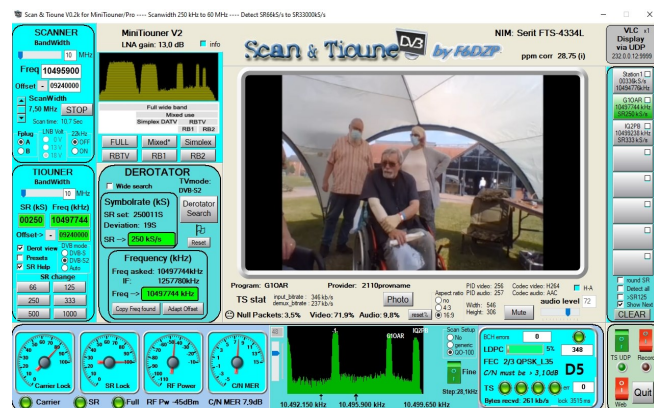


**Further downloads and images from the QO-100 Demonstration Station at HAU**

Off-Air (Mini Tiouner) Photos by Graham G3VKV, Cheltenham



Pete, G1OAR explains the system to a couple of visitors



The current 'Scan and tune' software from Jean-Pierre F6DZP



The Telford HamFest event visible to 1/3 of world sphere . .



Richard G0VXG chats to Pete G1OAR. (Where's Dave?)